

ABSTRACT

HIGH PERFORMANCE SPIN-VALVE TRANSISTOR

The invention generally relates to the field of spintronics, a branch of electronics using the magnetic spin properties of electrons. More particularly, the invention relates to the field of spin-valve transistors which can be used in numerous fields of electronics.

The invention aims to propose an original arrangement for producing high-level and high-contrast collector currents simultaneously.

The inventive spintronics transistor comprises a semiconductor emitter, a base forming a spin valve and a metallic connector separated from the base by an insulating deposit. The emitter/base interface constitutes a Schottky barrier and the base/collector interface constitutes a tunnel-effect barrier.

FIGURE 5.